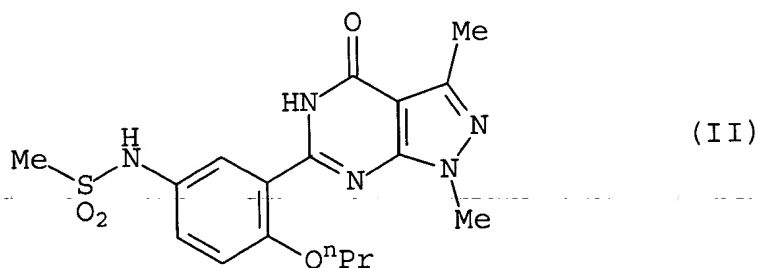
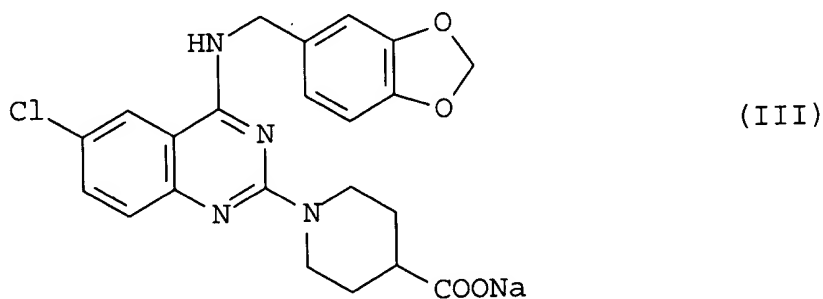


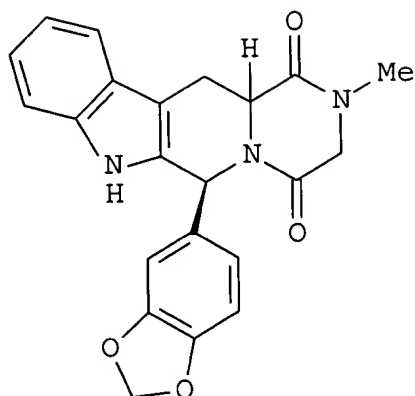
1,3-dimethyl-6-(2-propoxy-5-methanesulfonamidophenyl)-1,5-dihydropyrazolo[3,4-d]pyrimidin-4-one represented by the formula (II)



2-(4-carboxypiperidino)-4-(3,4-methylenedioxybenzyl)amino-6-chloroquinazoline represented by the formula (III)



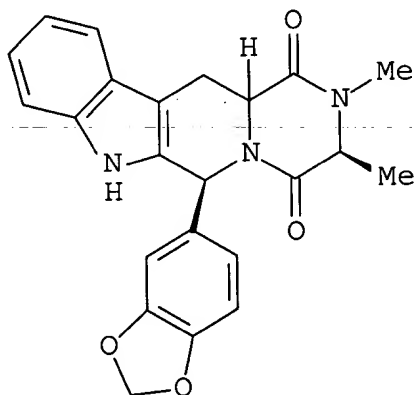
(6R,12aR)-2,3,6,7,12,12a-hexahydro-2-methyl-6-(3,4-methylenedioxyphenyl)-pyrazino[2',1':6,1]pyrido[3,4-b]-indol-1,4-dione represented by the formula (IV)



(IV)

, and

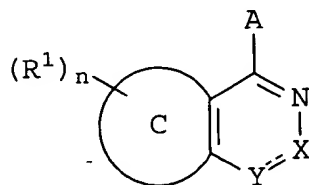
(3S,6R,12aR)-2,3,6,7,12,12a-hexahydro-2,3-dimethyl-6-(3,4-methylenedioxyphenyl)-pyrazino[2',1':6,1]pyrido[3,4-b]-indol-1,4-dione shown by the formula (V)



(V)

or a pharmacologically acceptable salt thereof.

In addition, the cyclic GMP phosphodiesterase inhibitor may be a compound represented by the following formula (VI) or a pharmacologically acceptable salt thereof



(VI)

wherein in the formula,

the ring C is an unsaturated 5- or 6-membered ring which may have a hetero atom;

n is 0 or an integer of 1-4;

R<sup>1</sup> is a halogen atom, an optionally substituted lower alkyl group, an optionally substituted lower alkoxy group, an optionally substituted cycloalkyl group, nitro group, cyano group, a group represented by the formula -NR<sup>2</sup>R<sup>3</sup>, wherein

in the formula, R<sup>2</sup> and R<sup>3</sup> are the same as or different from each other and each is hydrogen atom, an optionally substituted lower alkyl group, an acyl group, an optionally substituted arylalkyl group or an optionally substituted heteroarylalkyl group, R<sup>2</sup> and R<sup>3</sup> may form a ring together with a nitrogen atom bonded thereto, which ring may further have a substituent,

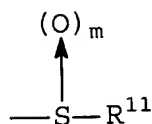
a group represented by the formula -O-R<sup>9</sup>, wherein

in the formula, R<sup>9</sup> is hydrogen atom, an optionally substituted lower alkyl group, an acyl group, an optionally substituted arylalkyl group or an optionally substituted heteroarylalkyl group,

a group represented by the formula -S-R<sup>10</sup>, wherein

in the formula, R<sup>10</sup> is hydrogen atom, an optionally substituted lower alkyl group, an acyl group, an optionally substituted arylalkyl group or an optionally substituted heteroarylalkyl group,

a group represented by the formula (VII):



wherein in the formula (VII),  $\text{R}^{11}$  is hydrogen atom, a lower alkyl group or amino group; and  $m$  is 0 or an integer of 1-2,

or an optionally protected carboxyl group, and

when  $n$  is 2-4,  $\text{R}^1$  may independently have the above-mentioned

substituent;

A is hydrogen atom, a halogen atom, a group represented by the formula  $\text{—NR}^4\text{R}^5$ , wherein

in the formula,  $\text{R}^4$  and  $\text{R}^5$  are the same as or different from each other and each is hydrogen atom, an optionally substituted lower alkyl group, an acyl group, an optionally substituted arylalkyl group or an optionally substituted heteroarylalkyl group, or  $\text{R}^4$  and  $\text{R}^5$  may form a ring together with a nitrogen atom bonded thereto, which ring may further have a substituent,

an optionally substituted aryl group, an optionally substituted heteroaryl group, an optionally substituted arylalkyl group or an optionally substituted heteroarylalkyl group;

X is a group represented by the formula  $\text{—NR}^6\text{—}$ , wherein

in the formula,  $\text{R}^6$  is hydrogen atom, an optionally substituted lower alkyl group, an optionally substituted

arylalkyl group or an optionally substituted heteroarylalkyl group,

or a group represented by the formula  $-N=$ ;

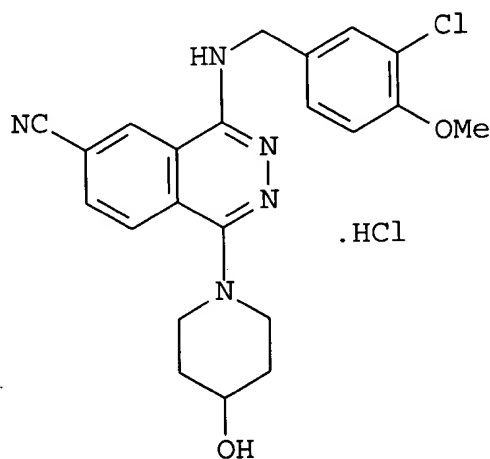
Y is a group represented by  $-CO-$  or a group represented by the formula  $-C(B)=$ , wherein

in the formula, B is hydrogen atom, a halogen atom, a formula represented by the formula  $-NR^7R^8$ , wherein in the formula,  $R^7$  and  $R^8$  may be the same as or different from each other and each is hydrogen atom, an optionally substituted lower alkyl group, an acyl group, an optionally substituted arylalkyl group or an optionally substituted heteroarylalkyl group,  $R^7$  and  $R^8$  may form a ring together with a nitrogen atom bonded thereto, which ring may further have a substituent, a group represented by the formula  $-O-R^{12}$ , wherein in the formula,  $R^{12}$  is hydrogen atom, an optionally substituted lower alkyl group, an acyl group, an optionally substituted arylalkyl group or an optionally substituted heteroarylalkyl group, a group represented by the formula  $-S-R^{13}$ , wherein in the formula,  $R^{13}$  is hydrogen atom, an optionally substituted lower alkyl group, an acyl group, an optionally substituted arylalkyl group or an optionally substituted heteroarylalkyl group, an optionally substituted aryl group, an optionally substituted heteroaryl group, an optionally substituted arylalkyl group or an optionally substituted heteroarylalkyl group; and

the formula (VIII) ~~====~~ means a double or single bond, provided that when the ring C is a benzene ring, the case where n is 0 is excluded.

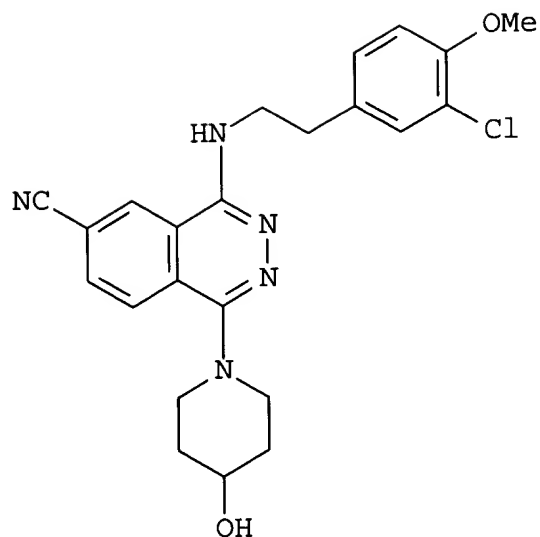
From the above, the compound represented by the formula (VI) may be selected from the group consisting of:

4-(3-chloro-4-methoxybenzyl)amino-6-cyano-1-(4-hydroxypiperidino)phthalazine hydrochloride represented by the formula (IX)



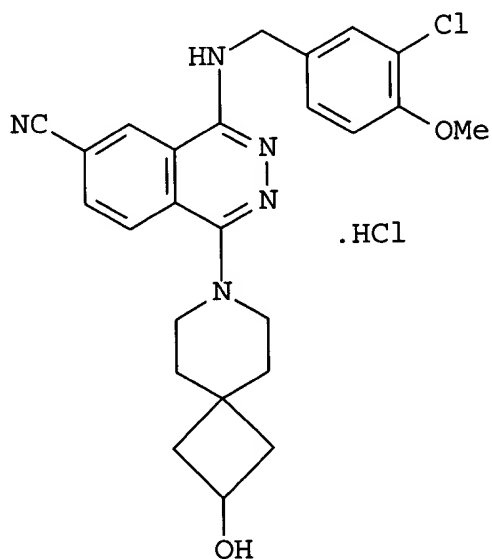
(IX)

4-(3-chloro-4-methoxyphenethyl)amino-6-cyano-1-(4-hydroxypiperidino)phthalazine hydrochloride represented by the formula (X)



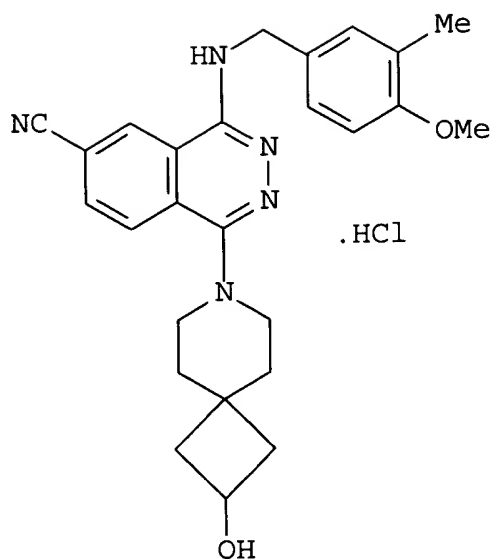
(X)

4 - [(3-chloro-4-methoxybenzyl) amino] - 1 - (2-hydroxy-7-azaspiro[3,5]non-7-yl) - 6-phthalazine carbonitrile hydrochloride represented by the formula (XI)



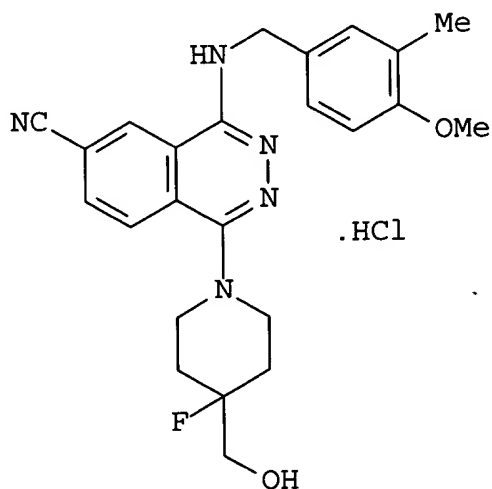
(XI)

1 - (2-hydroxy-7-azaspiro[3,5]non-7-yl) - 4 - [(4-methoxy-3-methylbenzyl) amino] - 6-phthalazine carbonitrile hydrochloride represented by the formula (XII)



(XII)

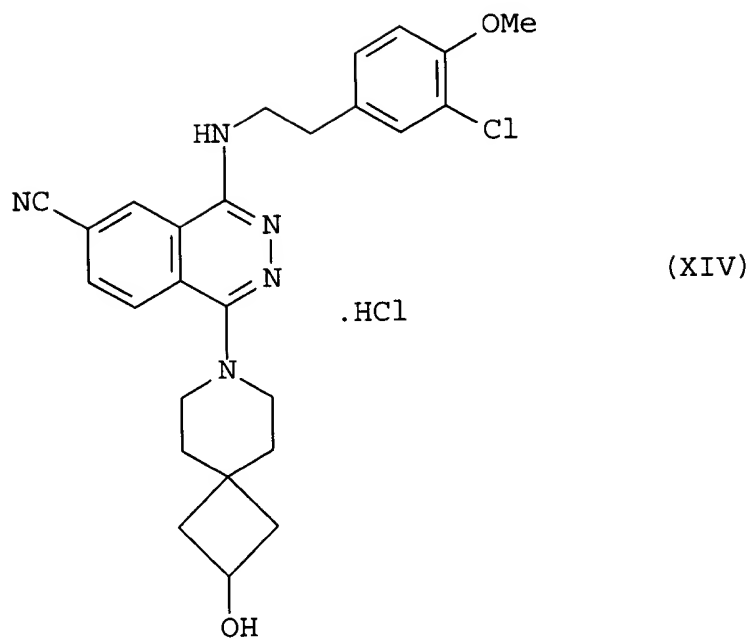
1-[4-fluoro-4-(hydroxymethyl)piperidino]-4-[(4-methoxy-3-methylbenzyl)amino]-6-phthalazine carbonitrile hydrochloride represented by the formula (XIII)



(XIII)

4-[(3-chloro-4-methoxyphenethyl)amino]-1-(2-hydroxy-7-azaspiro[3,5]non-7-yl)-6-phthalazine carbonitrile hydrochloride shown by the formula (XIV)





*Pat Cont*

, and

4 - [(3-chloro-4-methoxybenzyl) amino] - 1 - (3-oxo-2-oxa-8-azaspiro[4,5]decen-8-yl) - 6-phthalazine carbonitrile represented by the formula (XV)

